

NEW NORTH AMERICAN SPECIES OF *CERATOSMICRA* ASHMEAD  
(HYMENOPTERA: CHALCIDIDAE)

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In 1940, I published a revision of the genus *Ceratostmicra* Ashmead for North America (Burks 1940). Since that time, two additional species have been found. In this paper, I give a revised key to the North American species of the genus and new distribution summaries for the described species, plus descriptions of the two new species.

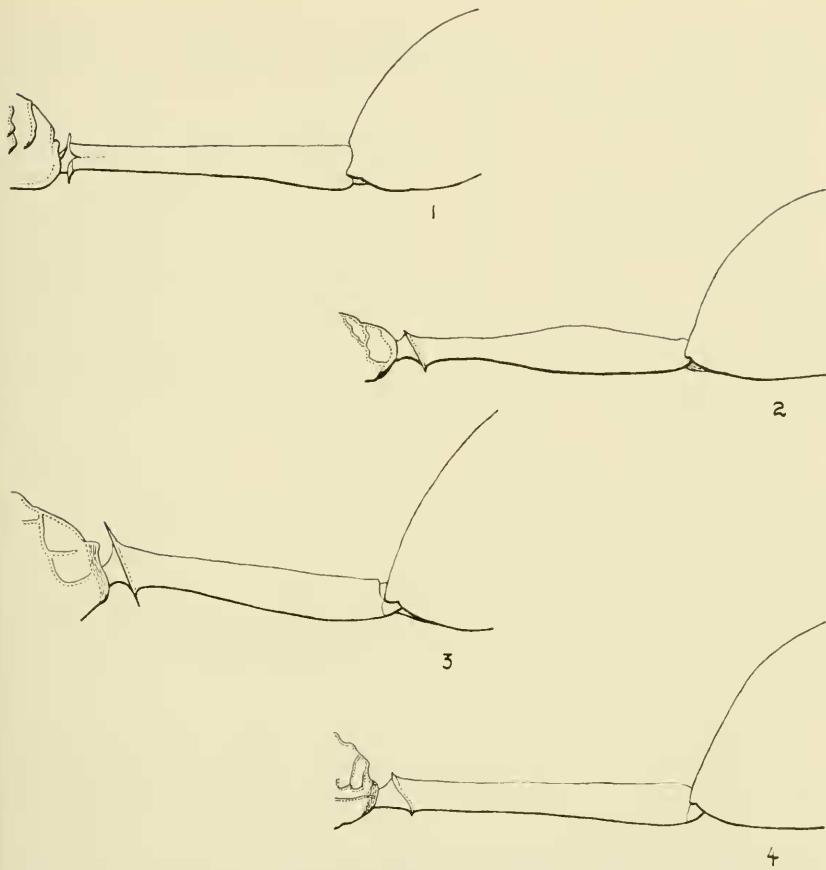
All the North American species of *Ceratostmicra* but one have been reared, and those that have been reared are secondary parasites. They emerge from the cocoons of braconid or ichneumonid primary parasites. All the species of *Ceratostmicra* are small, not over 5 mm long, with most specimens no longer than 4 mm. The following combinations of characters will distinguish *Ceratostmicra* from all other genera of the superfamily Chalcidoidea:

Antennae inserted at or slightly above level of ventral margins of compound eyes, apex of scape reaching or exceeding level of vertex, flagellum composed of 1 elongate ring segment, 7 funiculars, and a 3-segmented club which is only slightly separated from the funiculus; malar furrow present; thorax with notaulices complete, mesopleuron with a distinct femoral furrow, and prepectus greatly reduced in size; hind coxa elongate, round in cross section; hind femur enlarged, bearing a row of minute, closely set teeth on outer ventral margin; hind tibia curved, apex acute and bearing one apical spur; tarsi 5-segmented; petiole long, at least  $\frac{3}{4}$  as long as hind coxa and may be longer than hind coxa; petiole inserted at apex of propodeum; apical abdominal tergum with a pair of sessile, disc-shaped cerci.

KEY TO SPECIES

1. A strong tooth projecting from venter of propodeum between bases of metacoxae; petiole 14 or more times as long as wide at its widest point ..... **debilis** (Say)  
Propodeum without a ventral tooth; petiole shorter ..... 2
2. Petiole gradually enlarged from base to apex (fig. 1); forewing with an apical dark spot ..... **provancheri**, n. sp.  
Petiole either enlarged in the middle or virtually uniform in size from base to apex; forewing without an apical spot ..... 3
3. Petiole strongly enlarged in the middle (fig. 2); thorax predominantly yellow or light tan with a dark brown to black, longitudinal, dorsal median stripe ..... **meteori** Burks  
Petiole slightly or not at all enlarged in the middle; thorax yellow, without distinct markings, or predominantly black ..... 4

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Figs. 1-4. Petioles of *Ceratosmicra* spp., lateral aspect: 1, *provancheri*, n. sp.; 2, *meteorii* Burks; 3, *campoplegicis*, n. sp.; 4, *immaculata* (Cresson).

4. Propodeum with a tooth projecting posteriorly on each side of the base of the petiole ..... **paya** Burks  
 Propodeum entirely without teeth ..... 5
5. Body predominantly black; first funicular segment longer than second; flange at base of petiole broad (fig. 3) ..... **campoplegicis**, n. sp.  
 Body entirely light yellow, sometimes vaguely stained with darker yellow or pale tan; first and second funiculars equal in length; flange at base of petiole narrow (fig. 4) ..... **immaculata** (Cresson)

***Ceratosmicra provancheri*, n. sp.**

This species, with its predominantly black thorax with broad yellow markings and its broad head, suggests a member of the *xanthostigma* group of the genus *Spilochalcis*. Its long, slender petiole, however, refers it to *Ceratosmicra*. It

differs from all other North American species of *Ceratosmicra* in having the petiole gradually enlarged from base to apex, in having a dark spot in the outer apical angle of the forewing, and in the fact that the apex of the ovipositor does not reach the apex of the gaster.

Description.—Black, with bright yellow mouthparts, anterior coxae, eye margins, frons, and a transverse line intersecting anterior ocellus; pronotum yellow except for anterior declivity and a submedian and sublateral black spot on each side; broad yellow bands at lateral margins of prescutum and scapulae and a broad yellow band at each lateral margin of scutellum; a yellow spot on pleuron at base of hindwing; and a yellow dorsal spot on first gastral tergum. Antennae tan or brown, inner side of scape darkened; tegula and wing veins brown, apical angle of forewing stained with brown; mid coxa light brown, hind coxa dark brown with lighter longitudinal stripe on ventral side; fore and mid femora brown, apices lighter, hind femur brown with broad tan spot at base and near apex; fore and mid tibiae cream colored, hind tibia tan; all tarsi white; petiole red-tan, gaster dark brown, almost black.

Female: Length, 3.5 mm. Apex of antennal scape reaching level of vertex; ring segment  $\frac{1}{2}$  as long as pedicel, funicular segments 1-7 equal in length and each  $\frac{3}{4}$  as long as pedicel, club twice as long as pedicel. Scrobe cavity shallow, laterally ecarinate, bases of antennae separated by a space twice as great as diameter of antennal socket; labrum 4 times as broad as long; left mandible with 2 teeth, right with 3, median tooth smaller than dorsal or ventral tooth. Malar furrow curved, length of malar space  $\frac{2}{3}$  the eye height. Maximum diameter of lateral ocellus slightly greater than length of ocellular line and  $\frac{1}{2}$  as great as length of postocellar line. Width of head slightly greater than maximum width of thorax.

Anterolateral angles of pronotum weakly carinate, anterior margin ecarinate; apex of scutellum shining; mesepisternum setose ventrally; metepisternum completely covered with long setae; metanotum with a single row of setae along anterior margin. Hind femur with an inner tooth and with 20 closely set, minute outer ventral teeth.

Propodeum without lateral or apical teeth; surface of propodeum with closely set, convoluted rugae. Petiole with basal flange broad on both dorsal and ventral sides and petiole gradually enlarged from base to apex (fig. 1), as long as hind coxa and  $\frac{3}{4}$  as long as gaster. Entire gaster shining; apices of ovipositor sheaths not reaching apex of gaster.

Male: Unknown.

Type locality.—Inglenook, Pennsylvania.

Type.—USNM 69695.

Described from 3 specimens: Holotype ♀, Inglenook, Pa., collected May 28, 1911; Paratypes: 1 ♀, Springbrook, Pa., collected May 24, 1945; 1 ♀, Natick, Mass., collected May 30, 1936 on hickory, C. A. Frost. All specimens in U.S. National Museum collection.

Host.—Unknown.

#### *Ceratosmicra campoplegicis*, n. sp.

The predominantly black head and thorax, with rather irregular yellow markings, suggest that this is a member of the *side* group of the genus

*Spilochalcis*, but the long, slender petiole and distinct malar furrow will refer *campoplegicis* to *Ceratostomicra*. *C. campoplegicis* most closely resembles *immaculata* (Cresson) in lacking propodeal teeth and in having the petiole straight; the two differ in color, *immaculata* being entirely yellow and *campoplegicis* mostly black, and in that the flange at the base of the petiole is narrow in *immaculata* and broad in *campoplegicis*.

Description.—Black, with yellow or pale tan on mouthparts, borders of eyes and antennal sockets, dorsum of pronotum except for 2 black sublateral spots and sometimes a pair of black or brown submedian spots, lateral margins of prescutum and scapulae, lateral margins of scutellum, tegula and spot on pleuron at base of wings, all of fore leg except inner side of fore coxa, mid leg except for base of mid coxa, elongate stripe on dorsal angle of hind coxa, vaguely defined spots at base, on dorsum, and near apex of hind femur, base and apex of hind tibia, and hind tarsus, apicolateral areas of propodeum, base of petiole, dorsal spot on first gastral tergum, and transverse stripes on following gastral terga; inner side of antennal scape black, antenna otherwise tan; wings hyaline, veins brown.

Female: Length, 3.5–4.0 mm. Apex of antennal scape reaching level of vertex; ring segment  $\frac{1}{4}$  as long as pedicel, first funicular segment as long as pedicel, funiculars 2–7 equal in length and each  $\frac{3}{4}$  as long as pedicel, club twice as long as pedicel. Scrobe cavity shallow, margins ecarinate, bases of antennal scapes separated by a space equal to diameter of one antennal socket; labrum 3 times as broad as long; left mandible with 2 teeth, right with 3 teeth, all of which are subequal in size. Malar furrow curved, length of malar space  $\frac{1}{3}$  of the eye height. Maximum diameter of lateral ocellus  $1\frac{1}{2}$  times length of ocellocular line and  $\frac{1}{2}$  as great as length of postocellar line. Width of head equal to width of thorax.

Entire dorsum of thorax densely setose; anterolateral angles of pronotum weakly carinate, anterior margin dorsally ecarinate; apex of scutellum sculptured, nonshining; mesepisternum setose ventrally; metepisternum completely covered with long setae; metanotum setose on meson. Hind femur with a distinct, sharp inner tooth and 18–19 closely set, minute, outer ventral teeth.

Propodeum without lateral or apical teeth, bearing a short, median, dorsal carina at base, this branching obliquely laterally to form 2 carinae that reach lateral propodeal margins at about midpoint between base and apex; areas within carinae of propodeum smooth; long setae borne at apex of propodeum. Petiole with basal flange broad, fig. 3; petiole  $\frac{3}{4}$  as long as hind coxa; gaster elongate, twice as long as petiole; ovipositor sheaths slightly protruding.

Male: Unknown.

Type locality.—Riverside, California.

Type.—USNM 69696.

Described from 6 specimens: Holotype ♀, Riverside, Calif., Aug. 1, 1957, reared from an undetermined member of the Campoplegini parasitic on *Catabena esula* Druce on *Lantana* sp., B. Puttler; Paratypes: 1 ♀, Camino, Calif., July 27, 1948, H. M. G. and D. Townes; 1 ♀, San Jacinto, Calif., Sept. 20, 1958, collected on alfalfa, E. I. Schlinger; 1 ♀, 10 mi. N.E. Folsom, Sacramento Co., Calif., May 11,

1960, collected on *Eriodictyon californicum* (Hook & Arn.) Tarr., M. Wasbauer; 1 ♀, Graham Mts., 7500 ft, Ariz., July 8, 1957, sweeping, G. D. Butler; 1 ♀, 1 mi. S. Hood River, Oreg., Aug. 4, 1941, Joe Schuh. One paratype in Oregon State University collection, Corvallis, Oregon; 1 paratype in University of Arizona collection, Tucson, Arizona; the other specimens in U.S. National Museum collection.

Host.—Undetermined Campoplegini (Hymenoptera, Ichneumonidae) parasitic on *Catabena esula* Druce (Lepidoptera, Noctuidae).

Since my revision of this genus was published in 1940, much additional material has been accumulated. The distribution records of the four species included in 1940 are now as follows:

***Ceratosmicra debilis* (Say)**

Rhode Island west to Minnesota, Kansas, and California, south to Mexico, West Indies, and Venezuela.

***Ceratosmicra immaculata* (Cresson)**

Texas, south to Venezuela and Peru.

***Ceratosmicra meteori* Burks**

Massachusetts west to Illinois, south to Louisiana, Texas, and Mexico.

***Ceratosmicra paya* Burks**

Georgia, Illinois, Kansas, Texas, and California.

REFERENCE

- Burks, B. D.** 1940. Revision of the Chalcid-flies of the tribe Chalcidini in America North of Mexico. Proc. U.S. Natl. Mus. 88:237-354.